

tion, at the same time that it differs from those composing both the *digitigrade* and *pinniped* sections of the *carnivora*, inasmuch as at one spot the placenta presents a deficiency or gap, at which spot the placental structure is imperfect.

(4.) That *Procyon* agrees with *Canis*, at the same time that it differs from *Felis*, in the absence of a continuous layer of *decidua serotina* from the uterine surface of the detached placenta.

(5.) That *Procyon* differs from every other carnivore, the placenta of which has been minutely examined, in the possession of placental vessels possessed of a structure hitherto only met with in the placenta of *Cholæpus Hoffmanni* among the *Edentates*.

(6.) That *Procyon* differs from every other carnivore, the foetus of which has been hitherto examined, in the non-possession of an umbilical vesicle.

(7.) That *Procyon* differs from all *carnivora* of which the young have been hitherto examined, inasmuch as the foetus is provided with a supernumerary cuticle or *epitridermia*, a structure which has only been met with in the young of certain members of other mammalian groups.

From an examination of the various facts detailed in the paper, the author arrives at the conclusion that a consideration of the modifications in form and structure of the placenta *alone* is insufficient as affording a basis upon which to found a natural classification of the *mammalia*.

V. "Further Note on the Minute Anatomy of the Thymus"

By HERBERT WATNEY, M.A., M.D. Cantab. Communicated by E. A. SCHÄFER, F.R.S. Received January 3, 1881.

In the involution of the thymus, connective tissue is formed in the medullary portion of the follicle; and to some extent in the cortical. Besides this, the connective tissue outside the follicles increases, and in this connective tissue fat is formed; by these means the gland is finally replaced by fat and fibrous threads.

The cortical part attains its greatest size at the time of the greatest activity of the gland, it is not differentiated from the rest of the follicle at a very early period and disappears somewhat sooner than the medullary portion.

The lymphatics of the thymus of the calf are small. In the neck they run to neighbouring lymphatic glands, the efferent vessel of which runs to two other lymphatic glands lying on the trachea at the root of the neck. There is no connexion with the large lymphatics of the neck. In the thoracic portion of the thymus the lymphatics can also be traced to lymphatic glands, one of which is generally situated on the aorta.

The reticulum of the cortical part of a follicle is of two kinds; consisting (1) of a reticulum, composed of coarse threads and of delicate cells, with long branching processes—these cells and threads are attached to the blood-vessels. In the meshes of this reticulum two different kinds of small bodies are seen nearly equal in size; the one (*a*) are very highly refractive and angular, and have short threads attached to their angles, the other (*b*) circular and much less refractive—*a* and *b* are acted upon differently by staining solutions. The highly refractive bodies form the nodal points (2) of a delicate reticulum which encloses the circular less highly refractive cells.

Traces of this fine reticulum can be seen in the medullary portion.

The granular cells mentioned in a preceding note ("Proc. Roy. Soc.," vol. 27, p. 369) take their origin in the connective tissue cells which constitute the network of the medullary portion. These granular cells not only help to form the concentric corpuscles, but are actively concerned in the formation of fibrous tissue; their fibrillated processes are sometimes found to be attached to newly formed connective tissue.

The granular cells are identical with some forms of giant cells—they are not the plasma cells of Waldeyer, although plasma cells are present in the thymus, as has been described by Ehrlich.

January 27, 1881.

THE PRESIDENT in the Chair.

The Presents received were laid on the table and thanks ordered for them.

The following Papers were read:—

- I. "The Refraction Equivalents of Carbon, Hydrogen, Oxygen, and Nitrogen in Organic Compounds." By J. H. GLADSTONE, Ph.D., F.R.S. Received January 4, 1881.

Since the communication which I had the honour to read before this Society in 1869, "On the Refraction Equivalents of the Elements," very little has been done on the subject. My own contributions have been almost confined to two communications in the "Journal of the Chemical Society," in 1870; the one a lecture on the subject in general, the other a paper on the "Refraction Equiva-